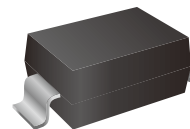




Features

- Metal silicon junction, majority carrier conduction
- For surface mounted applications
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- Lead free in comply with EU RoHS 2011/65/EU directives



Mechanical Data

- Case:SMAW
- Terminal:Leads solderable per MIL-STD-750 Method 2026
- Polarity:Color band denotes cathode end
- Mounting Position:Any



Ordering Information

Part Number	Marking	Shipping	Reel
RH3S40W	S34W	8000PCS Tape&Reel	13 inchs

Absolute Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz resistive or inductive load,for capacitive load, derate by 20 %.

Parameter	Symbol	RH3S40W	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	40	V
Maximum RMS voltage	V_{RMS}	28	V
Maximum DC Blocking Voltage	V_{DC}	40	V
Maximum Average Forward Rectified Current at $T_c=100\text{ }^{\circ}\text{C}$	$I_{F(AV)}$	3	A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	100	A
Maximum Instantaneous Forward Voltage at 3 A	V_F	0.45	V
Maximum DC Reverse Current $T_a=25\text{ }^{\circ}\text{C}$ at Rated DC Blocking Voltage $T_a=100\text{ }^{\circ}\text{C}$	I_R	0.3 5	mA
Typical Junction Capacitance (Note1)	C_j	700	pF
Typical Thermal Resistance (Note2)	$R_{\theta JA}$ $R_{\theta JC}$	60 18	$^{\circ}\text{C/W}$
Operating Junction Temperature Range	T_j	-55 ~ +125	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55 ~ +125	$^{\circ}\text{C}$

Note: (1) Measured at 1 MHz and applied reverse voltage of 4V DC.

(2) PCB mounted with 2.0" X 2.0" (5cm X 5cm) copper pad areas.



Characteristics Curves

Fig.1 Forward Current Derating Curve

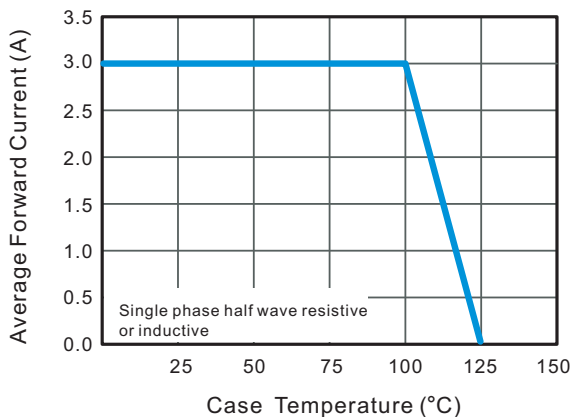


Fig.2 Typical Reverse Characteristics

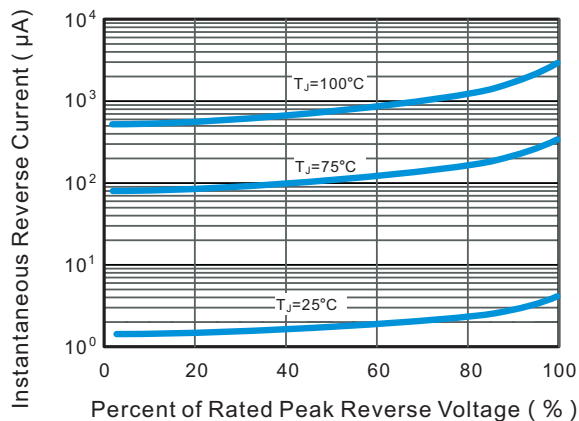


Fig.3 Typical Forward Characteristic

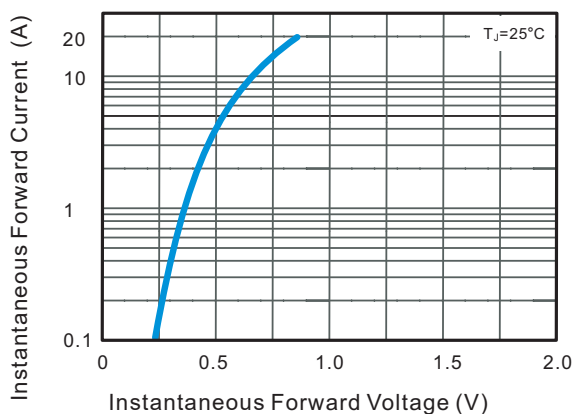


Fig.4 Typical Junction Capacitance

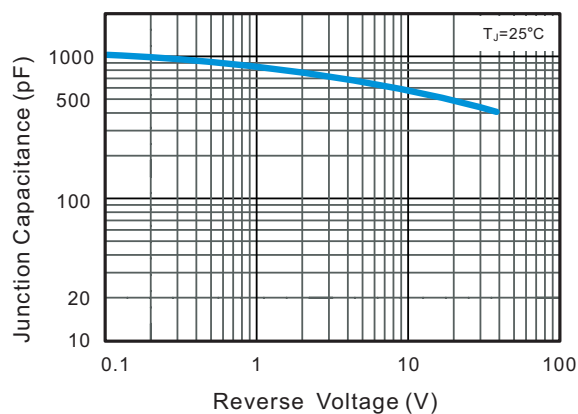


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

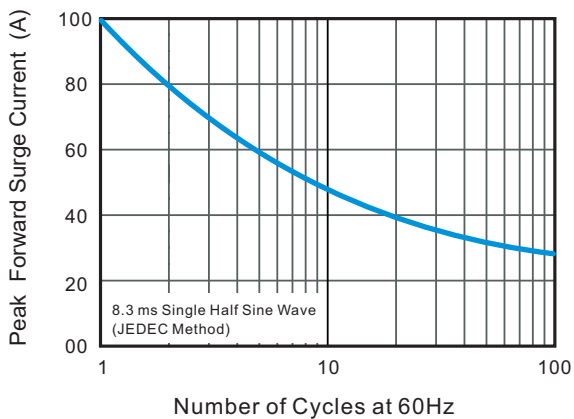
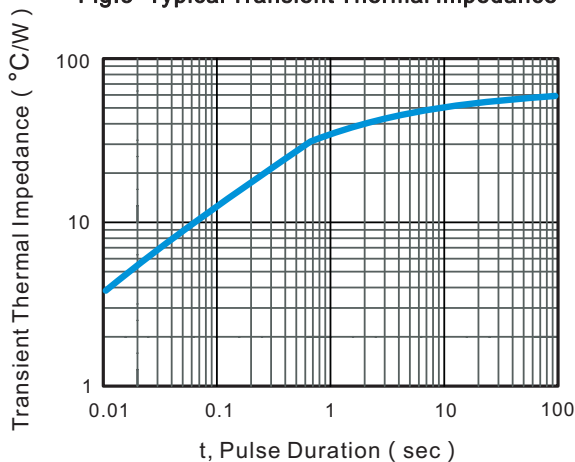
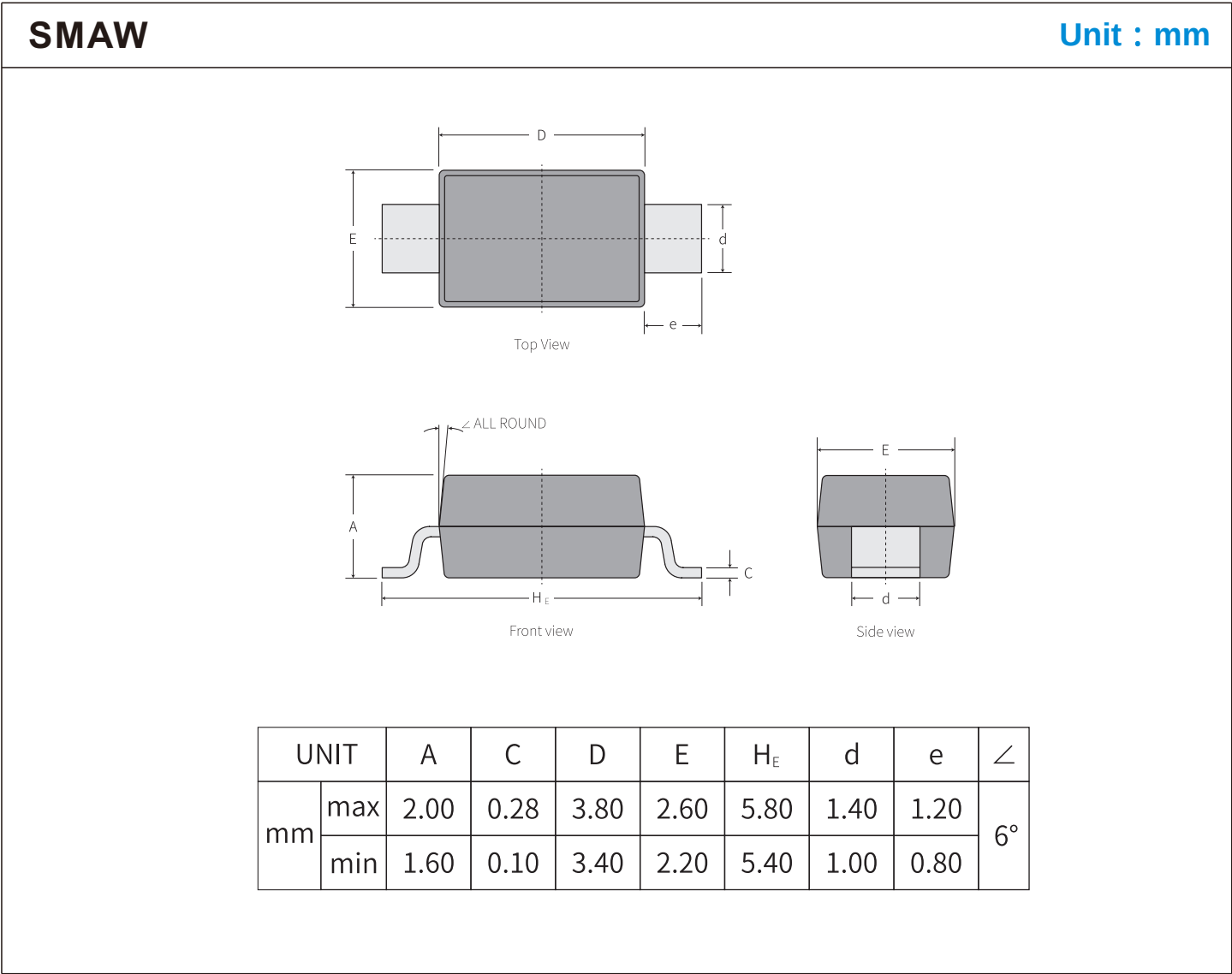


Fig.5- Typical Transient Thermal Impedance

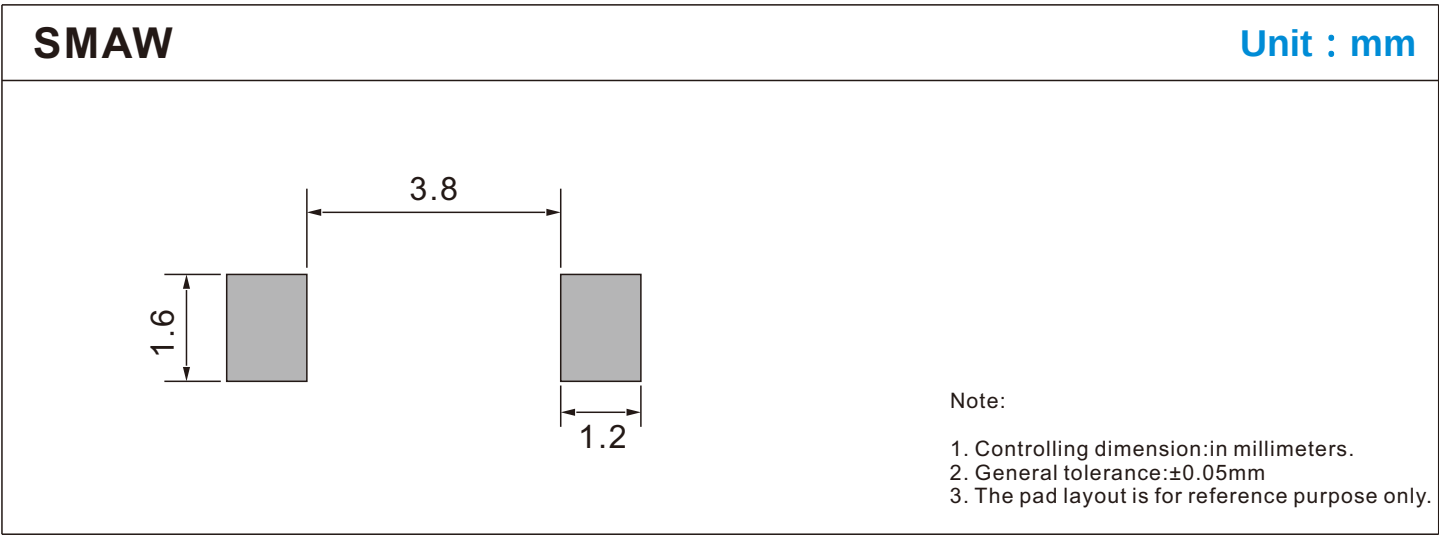




Package Outline



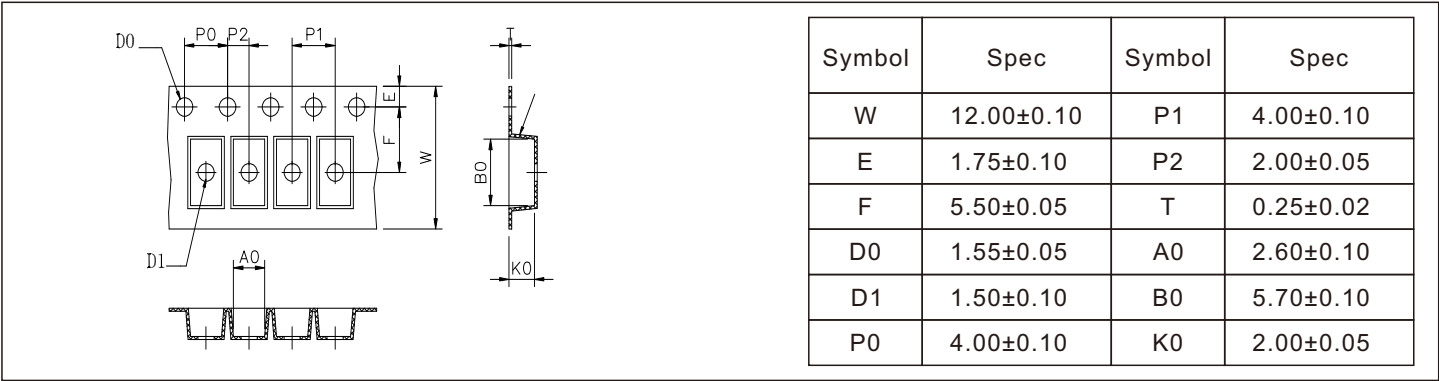
Suggested Pad Layout





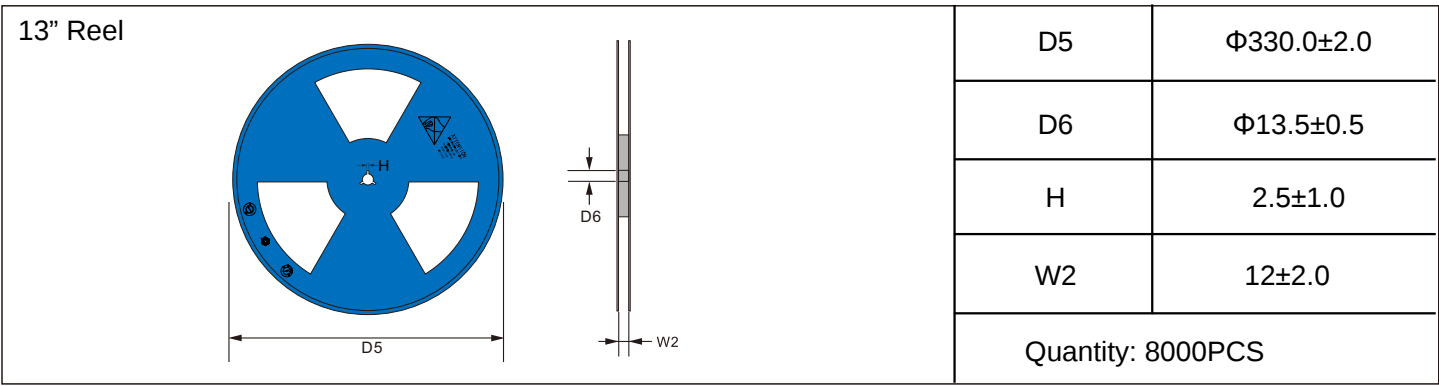
Carrier Tape Dimensions

Unit : mm

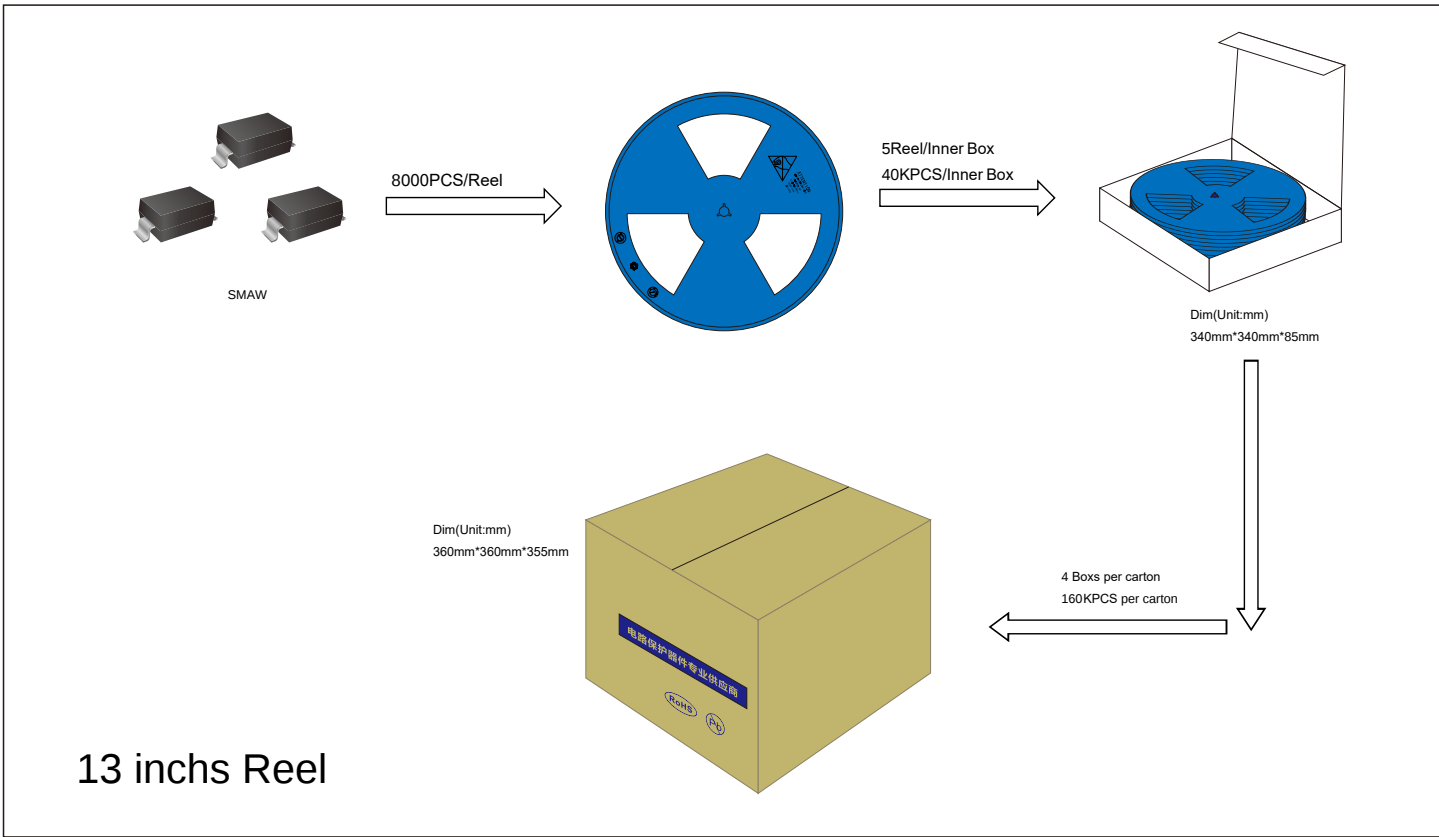


Reel Dimensions

Unit : mm

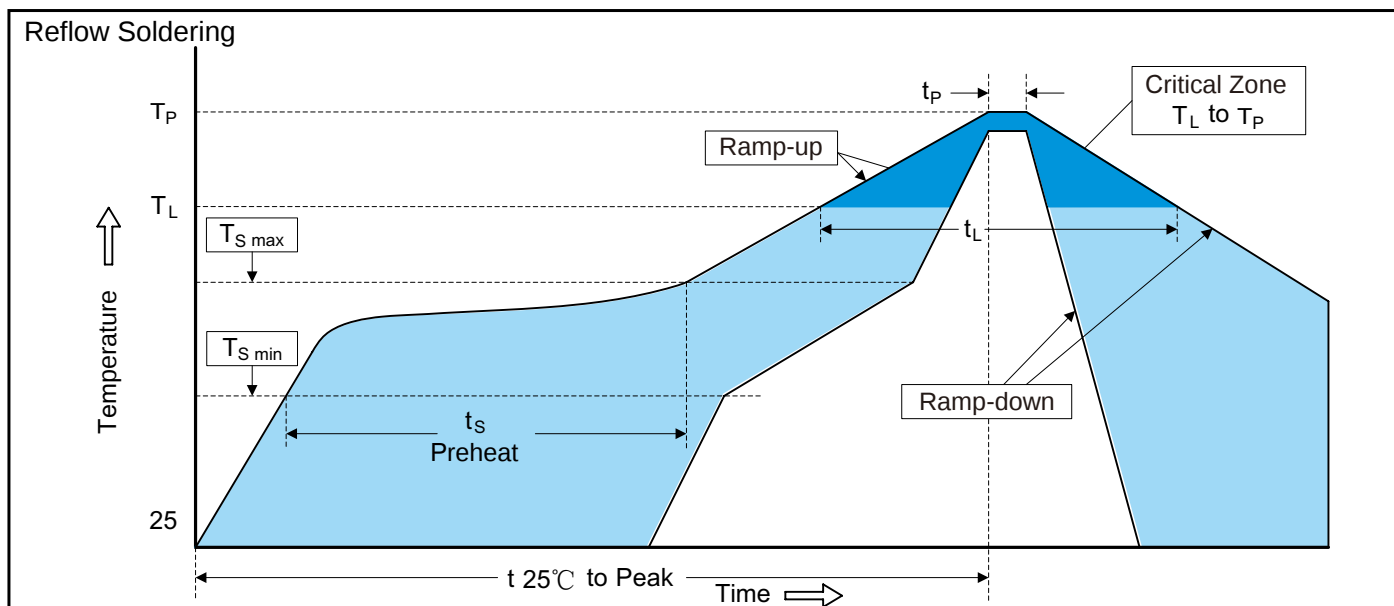


Packaging





Recommended Soldering Conditions



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3°C/second max.
Preheat	
-Temperature Min ($T_{S\ min}$)	150°C
-Temperature Max ($T_{S\ max}$)	200°C
-Time (min to max) (t_s)	60-180 seconds
$T_{S\ max}$ to T_L	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T_L)	217°C
-Time (t_L)	60-150 seconds
Peak Temperature (T_P)	260°C
Time within 5°C of actual Peak Temperature (t_p)	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.